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# CACTUS AND SUCCULENT JOURNAL

**Of the Cactus And Succulent Society**
***Of America***

VOLUME IV JULY, 1932 NUMBER 1

*Euphorbia virosa* Willd
From Kakteen, April 1932

**Price 35c**

CACTUS AND SUCCULENT JOURNAL
*Published and Owned by*
THE CACTUS AND SUCCULENT SOCIETY OF AMERICA

A monthly magazine to promote the Society and devoted to Cacti and Succulents for the dissemination of knowledge and the recording of hitherto unpublished data in order that the culture and study of these particular plants may attain the popularity which is justly theirs. "The Cactaceae," by N. L. Britton and J. N. Rose, has been adopted by this journal for purposes of identification. (Membership and subscription $3.00 per year, foreign $3.00 per year.) Mail membership application and subscription to the Secretary, Margaret Kincher, 1421 Dominion Avenue, Pasadena, California.

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# *Euphorbia virosa* Willd.

*By* G. A. FRICK

In the April issue of the Monatsschrift of the German Cactus Society is shown a photograph taken in Namaqualand of the rare and little known *Euphorbia virosa* Willd. Patterson in his "Narrative of Four Journeys into the Country of the Hottentots," describes this plant as attaining a height of seven to fifteen feet, sparingly branched at the upper parts which disagrees with the growing habit of *E. coerulescens* Haw, an altogether different species that is sold and known throughout Europe as *E. virosa.* This mistake was fully explained and both species described in an article by the writer in Vol. 2, page 309 of the CACTUS JOURNAL showing a photograph of *E. coerulescens,* a bushy cespitose clump of branches, very different from the accompanying photograph which shows an arboreal habit of growth, with bark-like main stem and complete elimination of the ribs in the older growth. This should clear up what doubt remains of the identity of *E. virosa.*

N. E. Brown writes (date 1925) that *E. virosa* is a most imperfectly known Euphorbia. H. Herre, MONATSSCHRIFT author, contributes little help to this situation, for he tells nothing about the plant; but he did collect seeds, which may be the forerunner of a closer acquaintance with this species, within a few years. Dr. Marloth collected *E. virosa* in Great Namaqualand, while Patterson's locality was in Little Namaqualand, which denotes that its distribution is fairly wide, yet no great quantity has ever been found. Single plants are often located with perhaps no other specimen within miles.

**DUDLEYA GIGANTEA ROSE**
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**745 5th Avenue**
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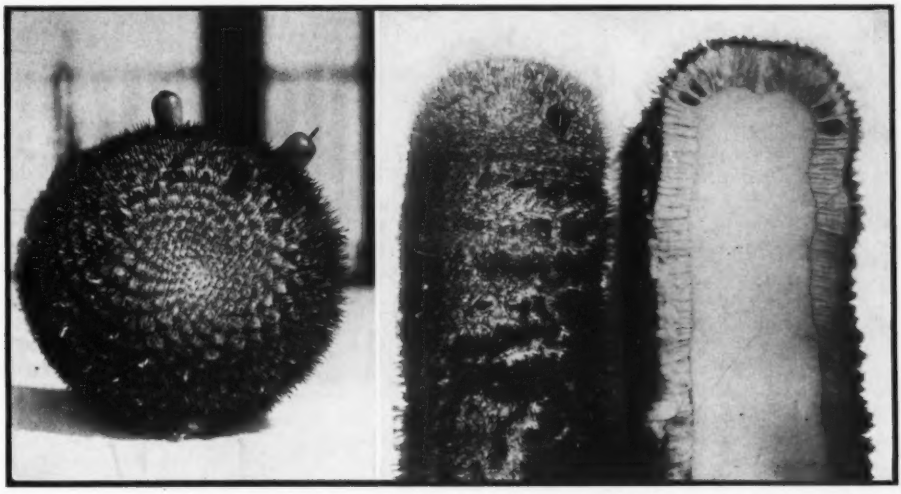


*Cactus intortus:* (Left) Looking down on a cephalium showing fruit which has pushed its way out through the felt. (Right) Cross section of cephalium.

# The Turk's Head in Porto Rico

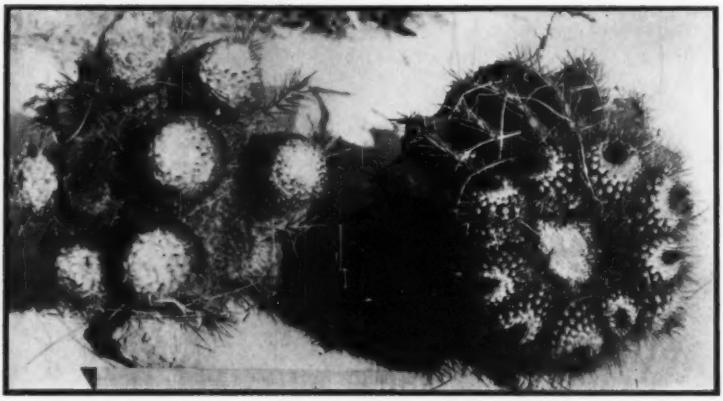
*By* CHAPMAN GRANT

*(All photos by Author)*

*Cactus intortus*, the "turk's head", "piñone", "cabeza de indio", or "melón", grows along the southwestern and northeastern rocky shores of Porto Rico. It is found principally on cliffs or headlands where the barren rocks or salt spray make its life possible by reducing competition with rank choking vegetation, but also, occasionally, on grassy hillsides, as near Parquera. It is also found on parts of some of the higher off-lying islets but not on the low coral ones. Judging from the rocky places where it is found, persons plant it in hollowed-out stone gate posts or cement urns, where no rich soil, moisture, or drainage are available, and the plant slowly dies as a consequence. In nature the elaborate root system may be traced as far as four feet or more from the plant, where it has searched out well drained pockets of rich moist soil.

The tiny globose emerald seedlings turn brown under the force of the sun. By the time they are two inches in diameter, they become somewhat flattened and have from ten to sixteen ridges. Later they turn emerald green, attaining an average diameter of nearly a foot when well nourished. The number of ridges increases above the greatest diameter of the plant by forking or by the appearance of new ridges between the original ones. Thus the number of ridges may increase to from seventeen to twenty-two. In counting ridges on nineteen shoots growing from one mutilated parent plant, this seventeen to twenty-two variation was found. Upon reaching full maturity, the plant is an almost perfect sphere with a cephalium sometimes seventeen inches high.

The spines grow in areoles along the ridges. There are from twelve to twenty areoles set nearly an inch apart from ground level to cephalium. Estimating from smaller plants, there must be between forty and fifty areoles per ridge during the life of the plant. The areoles in contact with the ground disappear. There are normally three rows of three spines to each areole, the lower central spine being the longest and extending over the next lower areole. The lateral spines usually meet those from the next ridge, bridging over the grooves. The spines vary in proportionate length and in color from straw yellow, mottled yellow and

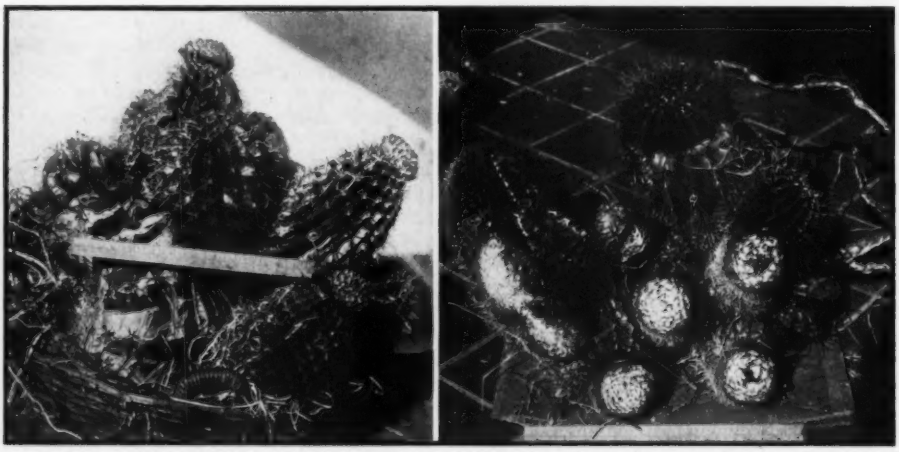


*Cactus intortus:* Multiple-headed specimen.

red, to deep red; from slender to coarse. The Mona and Desecheo form has heavier, longer, redder spines in five rows of four or five spines each.

The monstrosity is an abnormal growth usually caused by an injury. These have little scientific value but are sought for by collectors in proportion to their beauty or grotesqueness. Certain abnormalities cause a different form of growth, known as a crest or fasciation. This is a fan-like development that has only bilateral symmetry, whereas the normal plant is radially symmetrical. The causes of crests are obscure. Scientists and professional horticulturists have tried elaborate experiments to induce crests since they bring fancy prices from connoisseurs and collectors. Dr. Arthur D. Houghton experimented with many thousands of cacti—injuring, crushing, burning with electricity and chemicals, but no true crests were formed. He found that seedlings from crested plants produced a small percentage of cristates and that a graft of a slice through a cristate inserted into a cut in a normal plant developed a crest. In other words, once a crest, always and inherently a crest. Professor Hugo de Vries found that heredity was a sufficient explanation for crests.

The above views are by eminent scientists, but I do not know how to reconcile them with certain cases I have observed in *Cactus intortus*. An excellent example is shown in the illustration of a large *intortus* which was hacked by a machete and developed into a monstrose and a crest. This, then, is not a simple crest where the whole plant started out as such. The plant



*Cactus intortus:* (Left) Monstrosus form. (Right) Injured plant developing both crested and normal growths.

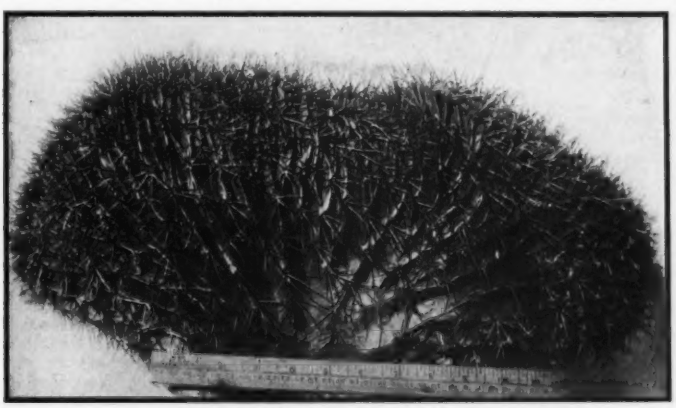
grew many years normally. It was then hacked, which caused a malformation or monstrosity; but why did it also develop a crest? I cannot reconcile this with the theories of the scientists above quoted. Certainly the 'jibaro' who was hired to clear this field for pasture did not perform a delicate grafting operation with his machete. It developed as an outgrowth of a normal plant that had been injured. The beauty of science is that it is never finished—most rules have exceptions and this seems to be one to the commonly accepted theory of the origin of crests.

The turk's head is a temperamental plant. I have found it in the field literally hacked to pieces and each piece healed up and alive—even budding. I have dug up plants, being careful to preserve the roots, taken them home and had some rot away in a few days. Others beside them, under apparently identical conditions, lived and stood abuse.

The cephalium or flower-stock is sometimes broken off or the whole top of the plant hacked off and the plant lives. If its hormones are ripe to produce cephalia, small plants shoot up around the periphery of the wound. Each originates just above an areole. These plantlets contain a central cylinder of fibre bundles joined to the central cylinder of the parent plant. The plantlets develop cephalia while very small and are soon dropping out their delicious little red fruits. There is not sufficient room on top of the parent for the buds to develop to any great size. The weaker ones are pried off by mechanical pressure of their growing mates, fall to the ground and grow, if the spot is propitious. Rarely some of these sprouts are crests. Frequently a different formation results, with each areole on a green fleshy nipple instead of studded along the edge of a ridge. This means only one thing to me. It is not a guess—it is an analogy. Let me give the example first: Scientists are more or less agreed that, for example, when a spotted tailed lizard loses its tail and regenerates a new one with a different pattern, stripes for instance, the pattern shown on the regenerated tail is the early or primordial pattern of that lizard. It is my surmise that the fluted genus *Cactus* sprang from the mammiliform genus *Neomammillaria;* that the regenerated mammiliferous buds are throwbacks.

The red cephalium, which gives rise to the name Turk's head, is an interesting member. The center is of soft white flesh with an extension of the stiffening of the central fibre cylinder of the plant. A fairly tough yellow skin grows a compact coating of soft, cream colored wool, held in place by close set red spines twice as long as the wool, or 30 mm. long. The red spines are bristle-like and the whole cephalium may be handled with impunity. Near the top, buds push through and blossom into modest rose colored flowers which are fertilized and quickly wither. The rose color[illegible] fruits appear further down the cephalium. Th[illegible]re forced out mechanically by the close-pack[illegible]wool. The conic shape and smooth skin of [illegible]fruit aid in the mechanical expulsion. The [illegible] contains loose, crystal-clear cells and tiny black seeds. They are good eating for small boys, ants, lizards and wandering naturalists. The taste is delicately acid and the seeds crunch like those of the fig.

EDITOR'S NOTE: Major Grant gave us the following interesting note. His mother, Mrs. Elizabeth Grant, San Diego, Calif., had the first cactus collection in California; first in Alameda in 1889 and thence to San Diego in 1892. Major Grant is now with the 65th Infantry, San Juan, Porto Rico, where he can make first-hand observations after his earlier years of experience with his mother's collection.—S. E. H.



*Cactus intortus:* Crested plant.

# Cultural Notes for the Atlantic Coast

*By* LEON CROZIAT

May 24th, 1932.

*If you detect contradiction with my previous script, do not be afraid. Life is an illogical process, therefore contradiction is of the essence of life, and once too often we forget in speech or writing to surround our statements with qualifications, taking (quite wrongly) for granted that everybody assumes implicitly what has been sunk a long time into the depths of our own subconscious. So it happens that the hearer or the reader is struck at first by some statement which sounds incongruous and incompatible with the premises. The corrective is to realize, first, the shortcomings of our means of communications, second, to "feel" the subject even more than to "think" of it. Multa clara erunt quae nunc fiunt obscura.*

As to general care of plants, one must keep in mind that the farther the plant is from its natural surroundings, the greater are the cares necessary to its propagation and proper conservation. This sounds rather stupid, but like any and every statement that is over simple, it conveys a deep meaning. In other words: a Texan cactus will keep longer, be reproduced with more ease and generally behave less erratically in Texas or Southern New Mexico than will be the case in Maine or Vermont.

Second: succulents are highly specialized structures, and are as a rule endowed with enormous vitality under the right conditions. They are, however, liable to perish quickly and without remedy once subjected to certain conditions which would leave any other plant unhurt, even a plant which is far more delicate than the succulent appears to be. For instance: a good sized *Ferocactus* will go if its feet are kept wet and will be killed by a defect in the drainage of soil which will leave a slim, feathery leafy creature quite unhurt or little impaired. This remark again appears to be very stupid, but it is perhaps more simple than stupid.

These two principles amount to this: that no succulent (and most any other plant) can be kept and properly cared for except by him or her who is willing to think a little, and strike an average between soil, water and climate (generally speaking of the locality where the plants are to be kept in contrast with the climate of the parent locality).

It follows that no recipe for a good compost, no rules for watering, no definite standard of exposure to the sun can be given or established which is equally valid for all localities alike. It is not my purpose to indulge in quotations from the highly technical works written on the availability of the soil to the same plant under different conditions. I know by experience what has been shown elsewhere in tables of data. A plant will "eat" from the soil differently, as human beings will change locality and crave for new foods, and feel that a change of diet has been made imperative by new surroundings. The Mosaic and Coranic tabu against pork is not absurd as much as a dweller of Chicago will think at first. Pork meat which I ate in Lybia out of ingrained choice and habit played more than a prank on my liver.

The fact that a plant "takes" from the soil in function of climate and moisture is not surprising at all. In common with plants we share the cellular structure of our body, phenomena of oxydation, respiration, circulation. Without making a hitch to the rules of sound common sense, it seems permissible to feel that plants "eat" differently from the soil in Texas than they do in Holland.

Even barring the chemical element of soil, the physical properties of it are highly important. Leafmold (I take leafmold to mean heavy decomposed soil, such as it is found in our woods, along slopes tending towards ravines and brooks, where the accumulation of decayed leaves has been made for long years and the result thereof has been allowed to mix intimately with the original clay or loam) is a wonderful compost, no doubt. It has, however, one serious drawback when it comes to potting plants which are left in the outdoors and are rained upon. It absorbs much water and keeps moisture long. A rainy spell under these conditions may be fatal to many a cactus. The compost is chemically all right, but as to physical properties, is "all wet".

As a rule, leafmold, corrected with ordinary loam, if too heavy, and good, large grained sand, plus a pinch of slack lime (a druggist would say "quantum satis") make a good compost nearly all over the world, if I am to judge from what I have been told. Do not forget lime (powdered slack lime). Plants from calcareous parts of the earth require it naturally. Plants which hail from granitic sections will absorb potash and other compounds of essential nature only in the presence of lime. Do not overdo the dose, though: if you do the leaves (if any) will find it difficult to develop, and the branching of the specimen at hand is reduced. I leave it open to others to find out whether this "xerophytication" of plants given an excess of lime has some connection with the circumstances that many semi-deserts are rich in limestone. I have an open mind on the point and dare not say anything either one way or the other. Experiments must be carried under different climatic conditions if the final facts are to be ascertained.

Now about cuts: treat a cut as you would treat a sick person, exactly so. A bruised or cut member, a frazzled stomach must be allowed to rest and live on a strict margin until the forces of recuperation present in all bodies can do their work. Forcing is of little use, except if a willingness to take chances for purposes of investigation is admitted. It follows that it is best to give a cut the chance to callous amidst conditions which prevent its trying to overreach itself and indulge in the expenditure of energy which is better required for other purposes for the time being. Turning it the other way around: callous your cut in the dark, in a place which is not too dry nor too damp. If the place is too dry your cut will loose water, anyhow, at the moment when it can ill afford to loose it, even if the rate of perspiration is very reduced. If the place is damp, rot attacks the cut, and mildew may be formed. Do not submit the cut to high temperatures during callousing. You do not expect it to grow: you wish it to recuperate. Give it the temperature that keeps it alive without excess

either one way or the other, to say around 60 or lower still down to 55 Fahr.

Now callousing is an intermediate process, something which is done for the purpose to prevent a worse harm from befalling the cutting, as I will presently say. Callousing must therefore be kept within the exact limits of time required to the accomplishment of the purpose (which is to interpose a hard layer or film between the vasco-cellular system of the cutting and the soil with its liquids) and must not be overdone, as many are inclined to do, who speak of callousing cuts for days and weeks. It seems to me that the worst cases of callousing are set right in three or four days, when the wound has been large or the plant itself is delicate.

Callousing may be dispensed with almost entirely when the cut is set into soil under condition of temperature which make it dormant. For instance: a cut taken from a plant in the greenhouse in February and kept in the home at a temperature of say 50/60 Fahr. will continue dormant for a time, and callous very slowly on its own account, even if stuck right away in soil of ordinary texture. This, however, is not a safe procedure. It succeeds in many cases, but again it may fail and the cut is thereby lost.

There is only one correct method of taking cuttings: Cut from live plants, from live parts, at the right season. When in doubt, cut about the middle of August or beginning of September. No plant is dormant at that time of the year, whether it belongs to the Southern or to the Northern Hemisphere does not matter.

Once calloused the cutting is not out of the woods yet. Still chances are that it may die of indigestion. This is the way it happens. The cutting, particularly if very vital and eager to live for itself, sucks from the butt up, remembering its old situation whereby it could draw life from the roots up. If you expose the cutting where the osmotic processes (a big word, I mean more or less the "suction action from one part towards the other") and the circulatory stream is activated, it may still happen that water is sucked through the calloused butt. In a few days your cutting roots, especially of those plants which have large medullar spaces (*Euphorbia trigonae* particularly) or of those which have soft tissue and long branches (Euphorbiae again, some Aloe and other). Plainly it won't do to take into our circulation some water or other liquid not entirely pure and clean from the outside. So a cutting which can draw an excess of water, particularly water polluted by ordinary soil through its calloused or poorly calloused butt, and introduce it into its system, is damned to early doom.

If this is to be avoided it is best to keep the cutting for a few days at least in sharp, clean, pure sand (which remains to this day the best medium to root in all specially delicate cuttings and scions) with water just enough to keep the sand slightly damp. Some fine head spray, when the weather is hot and dry, is beneficial. Again avoid sun or too much heat. Better a moderate temperature, and some half-obscurity than the opposite way around.

After a few days in sand (it is hard to make a statement on this point: one week, ten days are apparently enough) the cutting may be taken and transferred to soil, if required. The callousing having been by this time fairly well accomplished, the cutting may be allowed to return slowly to the normalcy of a plant. Personally I have found that it will do the cutting a lot of good to be kept in the dark where it is very warm for a time. I do this by setting the pot with the cutting in full sun (temperature up to 100° Fahr.) under another upturned pot which keeps the entire outfit in darkness. Water must be sparingly given, very sparingly: just a light headspray which leaves the cutting moist without wetting the soil to any great extent.

After I have written all this I still favor the safest way out with all sort of cuttings: pure, sharp sand, shade and some little water, after callousing. A rare slip should not be subjected to unnecessary chances and be lost for the sake of playing a game which experience shows safe in most cases but may turn against him who presumes too much. It is not necessary to wait until the roots are all out: when the cut has thoroughly healed, and become hardened the final rooting may be trusted to soil.

Summing up: a cutting is a wounded part and must be given the chances which every wounded being requires: rest and a modicum, strictly doled out, of the essential of life: water and light.

When the causes of the decay of a cutting are examined it is invariably found that they harken back to the poor conditions of the cutting itself (taken from old wood, in the wrong season, with too large destruction of live tissues) or, are more directly imputed to seeping of water in the still open vessels of the cuttings. It is normal experience of the grower that cuttings of Euphorbia which are short of sap and exude only thin, watery milk are almost sure to die. It seems to me that the main reason for this is that the vessels, bereft of vital lymphs are only too open to the penetration of water from the cut butt. On the other hand, the callousing under these conditions cannot be extended or even accomplished for the cutting tends to dry up and decay quickly.

The tendency of succulents to absorb water, particularly in hot weather and at the time when the vital urge is most strong, is well known. In early Spring cactuses should not be shipped, because when repotted they gorge themselves with water at the first occasion and die in great number in all the sections of the country where they are taken and the weather is not already fairly warm and sunny. So most any other succulent: the more active they are, the more strictly controlled they must be when first potted or repotted after transportation. Beware of the cutting or of the plant which grows fast and seems to move too quickly, for death is just around the corner. Like consumptives, they yield to a last orgy of life and pass away when the proud grower or the happy fancier thinks they are safe.

Beyond these general considerations, special considerations come into sight which are more closely connected with the genus, nay at times the species of the plant. Some are delicate, some others will stand most anything. Always, however, the difficulties in rooting or getting started after a period out of the soil can be traced to the structure of the cutting. Plants which are strong on core and thin of meat (particularly when the core is spongy) are difficult to handle; plants which are soft and watery with long, fragile roots (I am thinking about Heurnia) are again most trying. This of course barring the causes of decay due to the taking or to the shipping of the plant at the wrong time. Sometimes again, a piece of old wood bearing a promising bud seems to sign its last will and testa-

ment in favor of the terminal bud and persists in rotting and wasting away. Best then to cut the old wood out, to callouse the bud and use it alone for propagation.

If my experience holds good for all the places and all the exposures (which I doubt very much) the following observations may be useful:

CACTI (except *Rhipsalis*) callous to the limit (up to four or five days in very large specimens on wide cuts) stick in sharp sand, keep fairly moist. Cerei and opuntiae may be rooted in full sun. It is safer, however, to keep in the shade. When the plant is dormant, it may be calloused and stuck directly into the soil, the rooting taking place in due course when the plant begins to "move up".

MESEMBRYANTHEMA AND ALLIED GENERA—Keep dry with little head, spray with an atomizer, root in sand with traces of soil. The rooting takes place rather quickly and most propagations do not seem to mind some direct sunlight while rooting.

GASTERIAES—These lovely plants, which richly deserve to be more widely cultivated, are almost foolproof. They will stand anything: drought, dampness, poor lighting, cold. They root easily almost at any time of the year in ordinary soil. The only precaution required is not to overdo watering when rooting. Most propagations come from the side of the plant and do not require callousing. Cuttings must be calloused. Sand as a rooting medium is not advisable.

ALOES AND AGAVES—Easy and hardy, but not nearly as much as Gasteria. Some species are quite difficult to handle (*Aloe plicatilis* for instance). Callous well and root in soil with little water, almost none for the first days.

Both Aloes and Gasteriae are easily propagated from leaves (it is said that the whole leaf must be taken. While I grant it is safer, my experience is that with few exceptions, sections of the leaf may be used to good avail). The leaf must be calloused for one day or two, like any other cutting, and transferred after that immediately to the soil of the pot. Not all species, however, yield leaves good for propagation. If possible cut the leaf you wish to propagate about two-thirds and leave it on the mother plant for a few days before cutting away entirely. This will help.

EUPHORBIA—No fast rules are possible, owing to the enormous range of different forms belonging to the genus. Judging from my own experience in point of difficulty of rooting, come first cuttings taken from slender triangular forms (*E. tenuirama, E. grandidens, E. alcicornis*). Next, cuttings from triangular forms (*E. grandicornis*) or polygonar forms with thin expanded wings (*E. Franckiana, E. Ledieni,* particularly in young single stemmed specimens), etc. These forms must be closely watched, calloused with care and kept in sharp sand with light head spray, possibly in constant temperature, away from excess of light. It is suggested that the cutting be stuck in the soil just for a fraction of an inch and held fast to a crutch. I do not think this necessary, if the cut has been well calloused, but it may be practiced to some advantage with particularly doubtful cuttings. Triangular or quadrangular forms with thick wings (*E. resinifera,* many *E. franckiana, E. ledieni,* the so-called *E. abyssinica,* etc.) may be calloused and rooted in sand with a greater degree of assurance that nothing will happen to kill them; they are steadier and sturdier. Thick polygonal forms (*E. heptagona* and similar forms, all the way to *E. echinus*) are a safe bet if cuttings are taken from side sprouts, with sections made at the point where the cutting narrows to a stalk. But they must be taken when the plant is active (as is the case with most Euphorbiae). A short callousing may be a direct prelude to their rooting in soil. Again direct sunlight is not to be commended for cuttings in the process of taking root. If cuttings with large cut sections are obtained the callousing must be thorough and only pure sand used. *E. globosa* and allied forms are fairly easy if the cutting is secured at the spot where the limb narrows down to a gullet, but the medusae (*caput medusae* and allied forms) are difficult to handle to an extreme, again. Nothing must be attempted except with sand and care in watering. *tithymali, tirucalli, splendentes,* including *E. pendula,* are easy and can be rooted directly in soil with little water, in good light if necessary. *E. mammillaris* and allied forms are easy enough if the cutting is secured from a side sprout neatly cut at the point where it joins the mother stem. In this case, direct rooting in soil with little precaution may be attempted, as it has been said for polygonar forms. *Pteroneurae* are fool-proof and so is *E. bubalina.* Whether *E. hystrix, clandestina, clava* and other so-called Treisiae are just as safe as *bubalina*[1] I can not say, but I am inclined to treat them with greater respect and more care than *bubalina.*

HEURNIA, STAPELIA — They are "the devil". Try in dry soil, almost no water (I feel like saying no water at all) and keep very warm with good light. I wish you well!

KALANCHOE, SENECIO, KLEINIAE, PORTULACACEAE—All the very juicy forms are delicate and must be propagated only at the right time. When in doubt do this about the middle of August, using sand.

ECHEVERIA — Not difficult in springtime. Use sand on delicate cuttings or unrooted plants. If the specimen at hand is a good one, pot straight in soil and water but little.

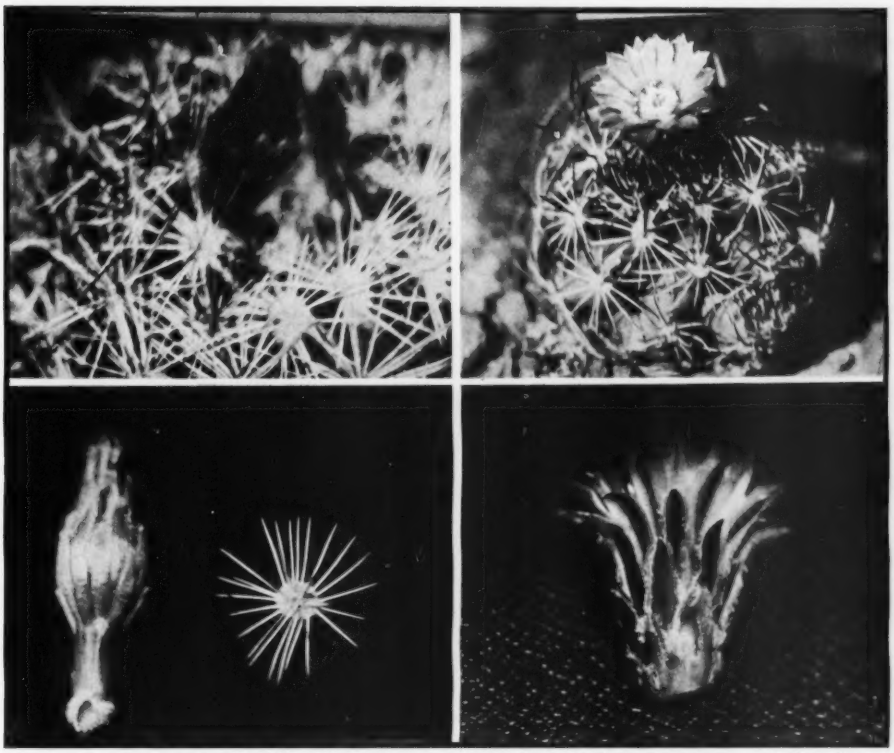
HAWORTHIA—Less easy than *Gasteria* and *Aloe.* Dislike excess of moisture and rot quickly if overwatered. Set in sand and give little water.

RHIPSALIS—They are a queer kind. Flat or triangular-jointed species (*ruppelli, elyptica, houlletiana, crispata, rhombea*) are easy to lead to salvation; once calloused they will root in soil directly. The whorled form seems to suffer from some queerness of behavior for which I have no account. If calloused and set directly in soil and watered, quite often they rot away, for the rotting takes place along short spaces at a time and the cutting can be trimmed over again. If set in sand they seem to wither and be miserable, and generally take a long time in rooting. The best way is this: callous for a short time (a few hours), stick in sand for ten days or so, then without minding whether the rooting is under way or not transplant into the pot in soil and treat the cutting like any ordinary plant. Generally the cutting puts up a wonderful appearance in a few days. If not, take it out again, inspect the butt, if rot has set in (which may happen only exceptionally) cut away the wasting part and treat again with sand first.

[1]These descriptions are not accurate, only indicative.

This is the result of what I know up to this hour. I feel I don't know anything yet and wish it to be clearly understood that some species of the genera and families indicated are an honorable or dishonorable exception to the rules I dare state. Furthermore: I am speaking from the standpoint of a man who has not a greenhouse, who has no facilities except some sunlight and an open yard (lucky dog I am now that I have this and the weather is getting warmer and warmer). Thirdly, I am living in New York. So anyone who disagrees with me may work out his own problems. The main point is to recall that a cutting is a sick person and as such it must be treated, being prevented from indulging in foods and eats which are harmful; being kept away from all forms of nervous excitement or tiring activities; in short, being nursed along with horse sense, given a chance to work. Translated into terms of our hobby this means that the cutting must not be allowed to pump water into its severed vessels; must not be subjected to direct sunlight which activates the assimilating processes and evaporation; must be as far as possible given an even temperature neither too high nor too low (around 70 Fahr.).

A last word about watering succulents: give a good soaking once every four or five days, and every night a light spray. You will thus imitate nature's method of the abundance of rain at long intervals and dew regularly after sunset.



UPPER LEFT: *Coryphantha chlorantha* in flower, photo by John Wright. UPPER RIGHT: *Utahia sileri* in flower, photo by John Wright. LOWER LEFT: Flower and spines of *Coryphantha chlorantha*, photo by John Wright. LOWER RIGHT: Flower of *Utahia sileri*, photo by Boyd L. Sloane.

# *Utahia sileri* in Flower

By YSABEL WRIGHT

The specimen of *Utahia sileri* found by my son, John S. Wright, near Pipe Springs, Utah, in July 1931, flowered on three separate occasions in late March and early April, and the flower definitely confirms the correctness of the identification.

The flowers lasted for two or three days each time. They grew from the upper part of the youngest areoles, and this fact, together with the unusual long ciliate or "feathery" outer peri-

anth segments characterize it and form the principal differences between the flower of this monotypic genus and that of *Coryphantha chlorantha* with which it might be confused from only a written description or even from a photograph. The actual plants when once seen together are decidedly different and could never be confused.

Although even photographs do not sufficiently emphasize the differences between *Utahia sileri* and *Coryphantha chlorantha*, the accompanying illustrations, together with the minute descriptions* prepared by Kathe Schlange, will, I hope, prove helpful to the student of cacti.

Flower of *Utahia Sileri*

Color clear-greenish-yellow. Length, with tube, 2.7 cm. Opens rotate-campanulate, 2.5 cm. wide. Tube, greenish, 7 mm. long, 8 mm. diameter. Outer perianth-segments arranged in 3 rows; 3-10 mm. long. The lower scale-like ones are broadly triangular, brownish-green, with fine feather-like hairs along margin, these hairs are 1.5 mm. long, silvery white. The larger upper ones are brownish with light clear-green margin and same feather-like hairs along margin, these hairs 1 mm. long. Inner perianth-segments 26-30, arranged in 2 rows, outer row is clear-greenish-yellow with pale brown stripe along midrib, oblong, 5 mm. broad, 15 mm. long, with fine lacerate apex. Innermost row of same color, oblong 4 mm. broad, the margin towards apex fine, wavy and lacerate. Looking into the flower the color is clear-green towards inner base of perianth-segment. Filaments, clear-green, 6 mm. long. Anthers, orange-yellowish. Style, palest-green, exerted beyond filaments by about 3 mm. Stigma lobes 5, same color as the Style, 1.5 mm. long.

Flower of *Coryphantha Chlorantha*

Color clear-light-yellowish-green. Length 3 cm. with tube. Opens campanulate 2½ cm. wide. Tube, slender, 3.5 mm. diameter, 8 mm. long, light-greenish, with only 2-3 very small scales. Outer perianth-segments light-greenish-brown, lanceolate, margins light-green and ciliate. Inner perianth-segments 25-30, light-clear-yellowish-green, linear-lanceolate, 2 mm. wide, 14 mm. long. Filaments, greenish, ¾ cm. long. Anthers, bright yellow. Style, palest green-white with only 3 stigma lobes 3 mm. long of same color, exerted above the filaments. Flowers appear out of the axils of new growth in April, lasting for 2 or 3 days.

*Cactus Journal, Vol. III, No. 5, pg. 88, 89.

My son was fortunate enough to see both plants in bloom in their native habitat. Mr. Martin D. Kapp, who later visited the region and with the aid of Mr. Hinton Siler, son of the discoverer, located other specimens, found it very easy to overlook the Utahia because of its great similarity in coloring and appearance to the soil in which it grew.

By Mary Norwood Lawrence
376 N. Ave. 57, Los Angeles, Calif.

Many catalogues, in their day, find their way to the Cactus Patch and of particular interest to the amateur with its lists and comments is one sent out by Mrs. Bakkers of the Nickerbocker Nurseries of San Diego. She writes: "I am sending you my first catalogue. It is not without mistakes but it cost me many hours of weary effort. It may interest you." It does. Furthermore, a collection of catalogues from all over the world would be of immeasurable value to students everywhere. The "many weary hours" of which Mrs. Bakkers writes, plus study and research, which these pamphlets entail are a gift from commercial men to the public and their value is not entirely one-sided. Mrs. Clayton H. Loose of Altadena has a large collection of catalogues and so has the writer, which eventually will find its way to the shelves of the Cactus Society Library.

The California Cactus Exchange is an ambitious company which recently allied itself with our organization by subscribing to the Journal.

Originally the members were a neighborhood band of cactus enthusiasts who found Los Angeles and Pasadena too far away for their convenience, but who nevertheless met to exchange specimens and talk about their favorite plants. The percentage of development is as high as in the mother society and takes in all of Inglewood and Hawthorne.

Mrs. W. W. Hunt is President of the club, and Mrs. Fay is chairman of the program committee.

The Central California Cactus Society was organized in June in Fresno, California, at the home of Mr. C. A. Tockstein. Dr. C. L. Fishback was elected President, A. H. Foster Vice-President, and Mrs. H. P. Brown Secretary-Treasurer. The new Society has adopted the Cactus Journal as their official publication, and will co-operate with the Cactus and Succulent Society of America.

CACTUS CULTURE

This is the most up-to-date, practical and comprehensive book published on the culture of Cacti. The most experienced as well as the beginner will find in this book suggestions which will prove both profitable and interesting. 186 pages 5½x8 with fabrikoid binding. Price $2.00. Cactus & Succulent Society of America, 1800 Marengo St., Los Angeles, Calif. (A review will appear in an early Journal.)

**NOTE: The following 8 pages are the 11th installment from the Britton and Rose reprint of Vol. 1, The Cactaceae.**

## THE CACTUS AND SUCCULENT SOCIETY OF AMERICA

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*Headquarters:* LOS ANGELES, CALIFORNIA

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*Crassula* Th. x 2.5
Collection of James West

## CRASSULA DELTOIDEA Thunb.?

The picture shows a little Crassula of Sec. *Campanulatae* which is occasionally found in our collections under the above name. However, another species with much larger, more elongate-rhomboid leaves of more recent introduction (it was shown in the Soldena Gardens' marvelous exhibit at the Cactus Show) may bear this name more rightfully. From the scant literature at hand* it is impossible to be sure; perhaps some reader may be able to set us right.

The present species is a creeping stem-rooting plant with fleshy stems and small, very thick, connate rhomboid leaves, punctate, grey-green overlaid with white meal. The flowers, rather large for the genus, urn-shaped, waxy-white, seem to be sparingly produced, the above specimen being the only one seen by us. Indeed the entire plant is extremely slow-growing; though pieces of stem and leaves root easily enough, it does not promise to become common in the near future.

We believe it to be another of Mr. Orpet's introductions.—J. W.

*Schonland in Trans. Roy. Soc. So. Afr. XVII, 3, pp. 168, 211.

### Even a Cactus Collector Can Joke!

*The editor received the following clipping from the Battle Creek Moon Journal with this personal note: "Scott, I saw one of these in your collection and without hoping you any bad luck I hope your plant flowers! The plant is Echinopsis eyriesii.*—EUPHORBIA ZUKE."

"DEATH CACTUS"

King's Mills, O., March 30.—Three times in 20 years a cactus in the home of Oscar Connelly blossomed. Three times in that same 20 years a crepe has hung on the door of the Connelly home. On each occasion the heavy fragrance of the flower had hardly disappeared before the death occurred.

The "death cactus" is gone now. Oscar Connelly disposed of it when it presaged the third death, that of Mrs. Alice Connelly, his wife, who owned the strange plant. But folk of King's Mills still speak of it in hushed voices.

"I threw it away because I thought it brought bad luck to my house," Connelly will tell you. He got rid of it only recently, having kept the plant for several months following his wife's death because she had been attached to it.

How Mrs. Connelly came by the strange cactus is unknown. It was in the Connelly home for many years.

In 1912 the plant first bloomed. Connelly's son, Oscar, Jr., who was 21, had contracted typhoid fever at the time. As the white blossom began to wither a few days later, young Connelly died.

Each summer Mrs. Connelly planted the cactus outside and each fall she placed it in a flower pot for the winter. Finally 15 years later it budded again.

It was October, 1927, and a daughter, Mrs. Mary McCullum, who lived with her parents, happened to be ill. The tragedy that accompanied the first blossom was recalled, but little significance was attached to the second flowering.

Then the lily-like flower drooped. Mrs. McCullum died a few days later. The Connellys found no happiness in the heavy fragrance that still lingered in the home.

Once more, last fall, Mrs. Connelly saw her cactus bloom. It was the last time.

When Mrs. Connelly was taken seriously ill, a member of the family observed that there was, once again, a bud on the desert plant. Apprehensive now, folk tried to keep the discovery from the sick room. But Mrs. Connelly learned of it.

"Bring me my cactus; I want to see the bloom," she commanded.

With reluctance Mrs. Annie Bateman, a sister-in-law, brought her the plant. "The blossom was lovely," she recalls. "It was a long, delicate, pure white flower, much like a lily. And it was fragrant, but somehow the odor was almost too sweet. It made you think of funerals."

When she carried the cactus to the sick room, Mrs. Connelly turned her head to the wall. She wouldn't look at it.

"The flower seemed to be just in its prime when I took it to Alice," Mrs. Bateman explains. "But when I looked at it a few minutes later, it had wilted completely."

Mrs. Connelly died a week later.

The presence of the plant in the house finally became unnerving. Connelly determined to get rid of it.

Three blossoms, three deaths! Coincidence?

Perhaps so, but King's Mills folks are skeptical, especially Oscar Connelly and his children.

## NEW PLANT AND SEED LISTS

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EDITOR'S NOTE: Price lists will be mentioned as received. When writing to these dealers kindly mention the JOURNAL. Books received by the Society will be reviewed by the staff and retained for the library of the Society.

Epiphyllums are one of the most popular cacti. They may be grown under varied climatic conditions, propagate easily, and award one an abundance of pleasure with their spectacular flowers.

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# The Stapelieae

## 11. Stapelia. The Stapeltonia Section

*By* ALAIN WHITE *and* BOYD L. SLOANE

There is a great difference to the eye between the Stapelias of the Orbea section and those which belong among the Stapeltonias.

The stems of the Stapeltonias are very distinctive, straight, usually hairy or pubescent to the touch, often a handsome dark shade of green, with four straight ribs, regularly toothed, well compressed in the young stems, sometimes becoming almost four-square as the stem matures. There are exceptions to such a definition all along the line, beginning with the fact that several species have the stems hairless, as in the case of the beautiful glistening stems of *Stapelia peglerae* N. E. Br. But for the most part velvety stems are the rule, and *"Stapelia velutina"* is a common trade name given every now and then to different species without prejudice.

FIG. 57. Stapelia gigantea x .2

Nearly all the Stapeltonias have the rudimentary leaves at the tips of the more or less clearly defined teeth upright and very persistent. In one extraordinary species, *Stapelia gettleffii* Pott, the leaves are half an inch long and curiously incurved against the side of the stems. This species is named for G. F. Gettleffi, who discovered it in the Transvaal in 1911. The flowers are very similar to those of *S. hirsuta.*

The flowers of the Stapeltonias are often large, in fine tones of purple, often quite hairy and in some cases developing marked cushions of hair at the central part of the corolla. No Stapeltonia flowers ever have actual corolla rings, such as are found always among the Orbeas and not infrequently among the miscellaneous groups.

The significant portion of the central crown is the outer horn of the inner corona, which in most of the larger flowered species is thickened into a sort of wing, intergrown more or less with the inner horn. The inner horn is frequently long, extending upwards and usually outwards over the horn in a picturesque curve. In the smaller flowered species the wing tends to disappear entirely or to persist only as a very small hump. But of the dozen or more of this type only one is as yet represented in our American collections, *Stapelia deflexa* Jacq.

Aside from varieties and hybrids Berger, 1910, listed thirty-four species of Stapeltonias and a dozen others have been described since. Their distribution is wider than that of the Orbeas, covering the whole of the dry sections of South Africa, north almost to the Tropic.

In the Flora of Tropical Africa, 1904, N. E. Brown mentioned three Stapelias as occurring within the tropics. But two belonging in the

miscellaneous groups and the third, the "giant Stapelia", *S. gigantea* N. E. Br., the largest of all STAPELIEAE, was later believed by Mr. Brown to have been included in error.

This amazing species was discovered in Zululand, in the north-eastern portion of the Cape Providence, by R. W. Plant in 1859, and it was also found in Zululand by Gerrard. Strange to say nobody, at least prior to 1910, had succeeded in locating it again in the wild state,

FIG. 58. Stapelia gigantea var pallida x .07

and in the Flora Capensis, 1909, Mr. Brown said he thought "that all the plants at present in cultivation are descendants of the plant originally discovered by Plant in Zululand and at his death brought by his native servants to Durban Botanic Garden". Today the descendants of Mr. Plant's specimen certainly number many thousands.

The flowers of *S. gigantea* are ochre- yellow, with fine transverse lines of crimson, these lines being closer near the center and wider apart on the corolla lobes. The lobes curl back slightly. There is only a very slight depression at the center. The entire corolla may be as much as 16 inches in diameter. It is thinly covered with pale purple hairs throughout, and the lobes are fringed with longer hairs of the same color. The inner corona is of the typical Stapeltonia type, with a three-toothed wing adnate to the inner horn. The flowers are so large they almost overshadow the stems, especially in specimens grown out of doors, when the stems are rarely six inches tall. In the greenhouse the stems become somewhat more elongated, and plants so grown make magnificent hanging pots or baskets. Our Fig. 57 is from a specimen in the famous succulent collection of Mrs. W. D. Harney in San Mateo.

Regarding the size of the flowers, J. D. Hooker made the very interesting statement in Curtis' Botanical Magazine that *S. gigantea*, "some Rafflesias and certain species of Aristolochia are the largest-flowered members of the vegetable kingdom, and, what is curious, all are most fetid and have lurid colours. They agree in no other characters; and they inhabit widely distant parts of the world, namely, South Africa, Malaya, and Brazil."

Whether *S. gigantea* has been rediscovered since 1910 we do not know. It is listed in the Check-list of Plants of the Transvaal and Swaziland by Mrs. Leendertz Pott and Burtt Davy. Swaziland lies just north of Zululand, and it may be that *S. gigantea* has been found there. On the other hand it is possible that the reference is to a so-called *variety pallida* Phillips, a form whose origin, however, is uncertain, as there is no record of its having been found in the wild state. It was first described in the monumental collection of colored plates, The Flowering of South Africa, Vol. 5, 1925, edited by Dr. I. B. Pole-Evans, the director of the Botanical Experiment Station at Pretoria, the illustration given by him being from a plant grown in a rockery in Pretoria. It is spoken of as an intermediate form between *S. gigantea* and *S. nobilis* N. E. Br., and it suggests an actual hybrid between the two, in which case

Photo by Sloane

Fig. 59. Stapelia schinzii x. 25

it cannot rank as a true variety of *S. gigantea,* but should probably be called *S. pallida* and relegated to the hybrid list.

In any event it is a beautiful plant, and the manner in which it combines traits of its two supposed parents is extremely interesting, for it has added much of the deep central tube of *S. nobilis* to the type of corolla lobes found in *S. gigantea,* and it retains the great size of the latter, the specimen in Fig. 58 having a diameter of fifteen inches. This plant is shown in the rockery of Mrs. van der Bijl at Great Brak River in the Cape Province, with the sea in the background.

The "noble Stapelia", *S. nobilis,* from the Transvaal and perhaps also from Natal, was introduced to Kew in 1897. It is similar in color to *S. gigantea,* but is only about half the size, eight inches, and is covered throughout the inner surface of the corolla with long purple hairs, much more prominent than those of *S. gigantea.* It can be recognized by the very distinct bell-shaped depression at the center of the corolla, which is over an inch deep. It differs from the *variety pallida,* with which it might otherwise be confused, by its smaller size and by the fact that its campanulate central tube gives the whole corolla distinctly a bell shape, while the "pale giant" spreads out its huge lobes in a flatter manner, after the fashion of *S. gigantea.*

Photo by James West

FIG. 60. Stapelia flavirostris x. 25

The only other *Stapelia,* with a prominent central tube, is *S. leendertziae* N. E. Br., named for Mrs. Leendertz Pott. This species has a remarkable flower, bell-shaped throughout, about four inches in size, of a uniform rich wine-red color. The plants in American collections have not yet flowered.

Another Stapeltonia recently introduced in this country is "Desmet's Stapelia", *S. desmetiana* N. E. Br., a species with very handsome stems, especially in its variety *pallida* N. E. Br.

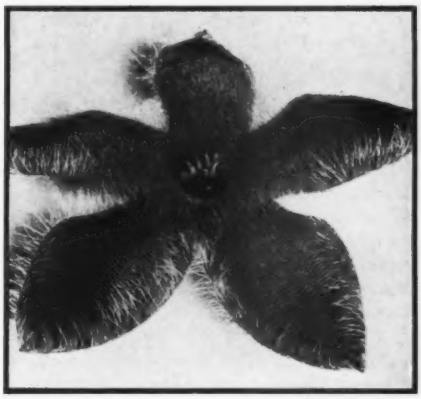


Photo by Sloane

FIG. 61. Stapelia flavirostris x .50

These grow to about ten inches high, are quite velvety, with strong ribs, deeply compressed in the young plants, and very gracefully shaped. The flowers are very large, about six inches in diameter, brownish red in color with transverse yellow markings extending from the center to well up on the lobes, the whole corolla covered with reddish hairs, especially thick at the center. *S. desmetiana* is widely distributed in the southeastern sections of the Cape Province. It is a fast grower and is surely destined to be one of the favorite Stapelias among collectors.

"Schinz's Stapelia", *S. schinzii* Brgr. and Schlechter, is a very curious species because of the elongated and delicate corolla lobes, uniformly dark brown, with many fine transverse ridges. Both the inner and outer surfaces of the flowers are wholly free of hairs, but there is a fringe of very vibratile purple clavate hairs all along the edges of the corolla lobes. The plant is named for Professor Hans Schinz, who discovered it near Lake Ngami in Bechuanaland in 1886. Strangely enough it was not described as a new species until 1909, after Curt Dinter had re-discovered it in South West Africa, some five hundred miles west from Lake Ngami. Dinter said he found the plants generally at the foot of small acanthaceous shrubs, beneath which the seeds had presumably been blown by the wind.

The flowers of *S. schinzii* vary greatly in size, from three to eight inches or more. The larger specimens are surpassed in size only by *S. gigantea,* the *variety pallida* and *S. pillansii var. attenuata* N. E. Br. The stems are distinctive and handsome, the teeth rather more prominent than in most Stapeltonias, and the little leaves unusually persistent.

Another large-flowered Stapeltonia is the "yellow-beaked Stapelia", *S. flavirostris* N. E. Br., which was fully described by James West in the Cactus Journal for March 1931. It is a showy plant, noteworthy for its velvety pubescent stems as well as for the large flowers, six inches in diameter. These are a dull purple red with transverse lines, yellow or more usually purple, with the tips of the lobes wholly dark purple brown. Fig. 60 shows a plant in the interesting succulent gardens of Mrs. J. G. Kennedy at Palo Alto. The distinguishing feature of the flowers is their "yellow beak", the prominent pale yellow inner corona lobes, with their wide dorsal wings. These are difficult to bring out in a photograph, as the color is lost in a front view. Fig. 61, however, shows the "yellow beak" distinctly, and though the corolla lobes are in distorted perspective one can see their unusual shape, very much taken in, one might say, at the waist.

*S. flavirostris* has been found at many points in South Africa, from the Kalahari region to the southern coast. It was first sent to England from the Cape by Sir Henry Barkly, and when first described in 1877 it was considered by N. E. Brown to be a variety *(lineata)* of *S. grandiflora* Mass. Later, in 1908, Mr. Brown raised it to its present position as an independent species.

The "large flowered Stapelia" of Francis Masson, *S. grandiflora,* has received much attention in the 140 years which have elapsed since he first discovered it at the Cape. Part of its renown certainly has resulted from its name. Of the Stapelias known to Masson, it was easily the largest; and it remains a fine, showy flower to this day, though it has been dwarfed by *S. gigantea,* and rivaled or surpassed by *S. desmetiana, S. flavirostris, S. nobilis, S. pillansii* and *S. schinzii.* At best the flowers of *S. grandiflora* are six inches or a little more in diameter, but as the flowering season progresses the flowers become more numerous and decidedly smaller.

In American collections many of the plants called by this name are either hybrids or belong to other species. The true *grandiflora* is a dark brown flower, somewhat rugose, and noteworthy chiefly for its wonderfully hairy appearance. At the center of the corolla there is a cushion of short, soft hairs, which extends half way up the lobes in a flourish of more scattered and longer red-brown hairs. Around the lobes is a thick fringe of long white or reddish hairs, partly directed inwards, which gives the entire flower a very shaggy look. The central corona is a striking affair, the inner horn strong and graceful, and supported by a wide, toothed wing.

Next to *S. hirsuta, S. grandiflora* is the most frequent source of Stapeltonia hybrids. In Fig. 62 we will illustrate an unnamed hybrid which is one of the most beautiful we have seen. It has a distinct cup at the center, but in other respects, the markings, the hair system and the corona structure, everything points to the parentage of S. grandiflora. The corolla lobes roll back completely as the flower develops. The color is a fine tone of wine-red.

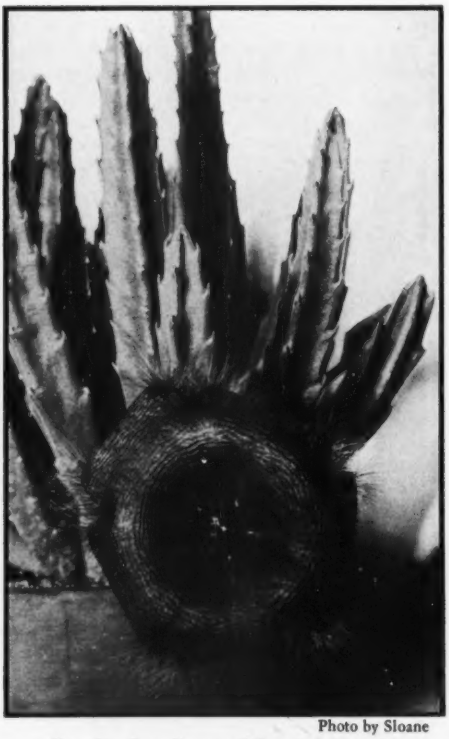


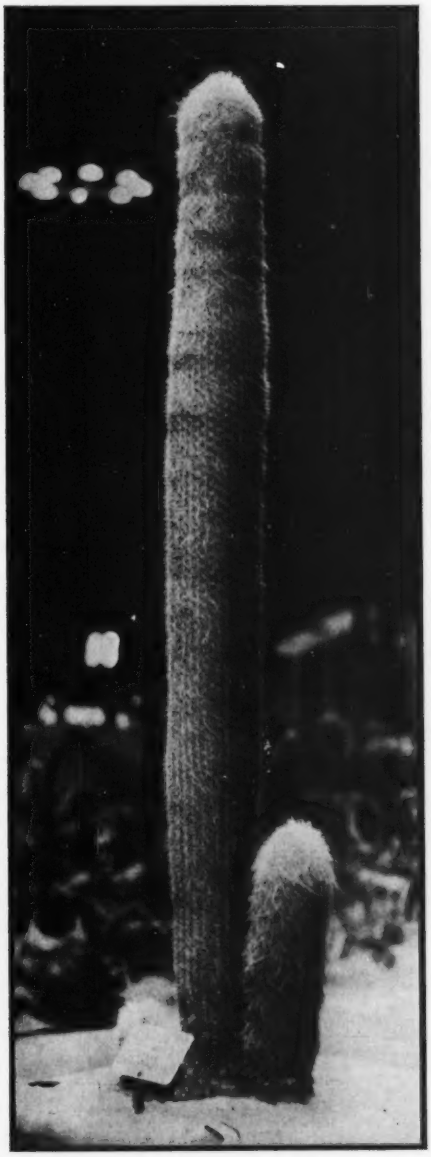
Photo by Sloane

FIG. 62. Stapelia grandiflora hybrid x .50

# Fourth Annual Cactus Show

*By* MRS. R. D. SAMUELS

Almost an acre of rare succulents, including cacti, greeted the visitor to Pasadena's Civic Auditorium, where the Cactus and Succulent Society of America held its fourth annual exhibit. Both the larger collections and individual plants show greater diversification and improved culture since the first exhibit three years ago. New names of amateur and commercial growers come to the fore, while the familiar ones are presenting finer arrangements and specimens. Repetitious monotony in the display of the same plants and their arrangements grows less and less, while many new importations by way of seedlings and plants brought an acquisitive gleam to the jaded eye of the collector.



A *Cephalocereus senilis* ten feet tall entered by the Huntington Botanic Gardens.

Entering this well lighted new exhibition hall, one saw the central spaces laid out with rock gardens; here and there were tubbed specimens of tall cerei brought by William Hertrich from the Huntington Botanic Gardens. Six-foot individual display tables were placed against the walls, or arranged in L formations about the rock gardens. These tables, covered with a rough cream paper, held unusually well displayed collections. The total effect was good, the displays generously large and amply spaced, while the wide aisles added to the comfort of the observer. Also, the nomenclature has greatly improved, thanks to the knowledge advanced by the too few writers and students of this subject.

Inasmuch as the "other succulents" won sweepstakes, tribute should be paid to them first.

To the right corner was the 450-specimen exhibit from Soldena Gardens, winner of sweepstakes, excelling in its 125 rare stemless mesembs grown to perfection; fairly new and very new Crassulas, with *Crassula pseudocolumnaris* judged the "rarest succulent" of the show; the tiny *Crassula corallina* looking like a ghost of *Sedum brevifolium;* that handsome *Cotyledon ausana* in coral bloom; ten species of windowed Haworthias; a large frilled specimen of *Adromischus cristatus;* and Gasterias named from specimens sent to Germany for the sake of correct nomenclature. A few carefully named true species of Sempervivums revealed harmonies in gray and rose, green and red, and a careful correspondence with Henri Correvon, C. H. Pfadenhauer and his silent but very intelligent partner, J. R. Brown, are doing much to introduce unfamiliar varieties and to put succulents into their proper botanical places.

A right-about turn presented two fine specimens of Bromelias standing like sentinels near the entrance, their tall flower stalks a challenge. One, a tub of six-year-old *Puya alpestris* displayed by E. O. Orpet, probably caused more vocal admiration than any other single specimen. Its four-foot flower stalk bore perky outstanding spikes of green and red bracts about closed buds, with a few dozen flowers open at the base. These flowers were 3-petaled, trumpet-like, done in satiny dusky green-blue with orange anthers —a study for the artist. Its excellent companion piece, towering higher, was *Puya chilensis* Molina in green-yellow bloom, brought from the Huntington Botanic Gardens and possessed of great beauty. These Puyas remind us to add more of the Bromeliaceae to our collections other than the familiar Dyckias and Billbergias.

The Society's President, Boyd L. Sloane, had a large non-competitive exhibit of unusual Stapelias in excellent growth. A ribbon leading from each plant up to the proper section on a wall-map of Asclepiadaceae nomenclature indicated the species and variety of that plant. Fanciers hope for the day when gems

such as are in Mr. Sloane's and Alain White's collection become available. Would we like to pet *Stapelia mutabilis, Pectinaria asperaflora,* and *Huernia pillansii?*

G. A. Frick's prize-winning Euphorbias included a box of several hundred seedling *Euphorbia obesa,* each garbed in a differently colored gingham plaid.

A rock garden by Dr. Llewellyn R. Lewis took several silver awards for best landscape, best amateur collection of succulents, and Stapelias. His choice specimens and artistic grouping of plants and rocks deserved reward.

Col. Perrie Kewen's choice new species and originations, and Mrs. Marshall Neal's large specimens—both were creditable contributions. A *Manfreda gigantea* in weird leggy stamened bloom was shown by Gertrude W. Beahm, who exhibited also a handsome big pot of *Aloe variegata.*

Esther Fraser Clark's table done in Mexican theme was amusing. Succulents were used in its miniature center-piece which featured a bull-fight and many family activities.

The three-foot-square garden by Mrs. M. C. Drisko contained a hillside stucco dwelling cleverly gardened with bits of succulents, tiny pots of tinier "old man" cacti were on the steps leading up to the house, while heads of *Sedum pachyphyllum* made a foundation planting round about it.

The display of cacti was more notable than any shown before by the Society:

The prize for "best cactus" was won by George Plack with his *Malacocarpus ottonis* from Brazil. This thirty-two-year-old specimen is about nine inches high and distinguished for its rusty brown spines and brown woolly blobs concealing embryo bloom. But the judges must have had a difficult time choosing it from other handsome varieties entered here for the first time.

One of the best features of this year's show was its display of cacti grouped geographically. This had an educational value of the greatest interest. One of those to exhibit in this class was Howard E. Gates who won first prize for best collection of cacti—eighteen firsts, and twenty-seven seconds. His two large tables showed one group from Lower California, and one from our southwestern deserts. Among his treasures were the much swollen root of *Peniocereus johnstonii,* and the smooth green soap-like lump of *Lophocereus schottii monstrosus.*

Curt Backeburg, the explorer returned from a rather recent expedition to South America, had sent over for display a representative collection of cacti found in Peru. For example, many admirers gazed at that beautiful platinum blonde, *Espostoa lanata.* The other specimens tried to rival it with their odd coloration in spine and woolly areoles.

Texan cacti displayed by A. R. Davis of Marathon, won first place for cacti brought from a distance, representing a native growth. His plants were big and healthy.

Natives had been sent from Porto Rico by George F. Anton. His large *Neomammillaria nivosa* would make a good wooly plaything were it not for the spines. The two "Turk's cap", *Cactus antonii* and *Cactus intortus,* offered a study in differing cephalia. A tall *Cephalocereus royenii* with its stram-

*(Continued on Page 223)*

## FOR YOUR APPROVAL

The Executive Board of The Cactus and Succulent Society of America presents the advertising of this issue in a different form. The change has been made to allow the advertisers a better opportunity to present their message to our readers, and is temporarily adopted pending its reception by our membership. Please send your comments to Jim Fowler, 4211 S. Arlington Avenue, Los Angeles.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colored spines and gray wool at the ridges caused acquisitive glances to be cast its way.

Huge cacti crests from Bernard's were exhibited. No showing of cacti is complete without H. M. Wegener's collection of Epiphyllums, some of which were in flower.

Many other educational features were here. John's Cactus Gardens showed the "March of Time",—cereus seedlings in four stages, with a prescription for the soil mixture used for each: A. Krejci's miniature collection of hundreds of named succulents, his exhibitor's card spelled with cacti seedlings in white sand; Morris Schick, winner of first place on Echeverias, lined up many named Dudleyas and Stylophyllums ranging from Del Norte County, California, into Old Mexico.

It is difficult to omit mention of the names of other excellent amateur and commercial exhibits which contributed a large interest to this splendid fourth undertaking.

Thanks again and enthusiastic congratulations to the efficient and hard-working members of the show-committee who made this enticing display so great a success.

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**The Librarian of the Society wishes copies of number one Vol. I, (July 1929) and number 4 Vol. I (October 1929). Spare copies should be sent to the Librarian at 1800 Marengo Street, Los Angeles.**

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